

## ABSTRACT

Metal MEMS structures are fabricated from metal substrates, preferably titanium, utilizing micromachining processes with a new deep etching procedure to provide released microelectromechanical devices. The deep etch procedure includes metal anisotropic reactive ion etching utilizing repetitive alternating steps of etching and side wall protection. Variations in the timing of the etching and protecting steps produces walls of different roughness and taper. The metal wafers can be macomachined before forming the MEMS structures, and the resulting wafers can be stacked and bonded in packages.